

[NAME OF DOCUMENT] ABSTRACT

A converter (311) converts an AC electric power (e) to the DC electric power with a DC voltage value corresponding to a setting. An inverter (312) is controlled by a frequency electric power control circuit (330) to convert the DC electric power to a dual frequency AC electric power for alternately outputting low and high frequencies at a frequency ratio (duty) corresponding to the setting. A matching transformer (321) having a tap (321C) at which the resonance impedance corresponds to the output impedance of a generator(310) receives the dual frequency AC electric power. A low-frequency series resonance circuit (325) or a high-frequency series resonance circuit (326) is caused to provide a series resonance, thereby causing an induction heating coil (200) to induction heat a workpiece-to-be-heated (201). In this way, the single generator(310) and the single induction heating coil (200) are used to effectively induction heat the workpiece-to-be-heated (201) by means of the dual frequency resonance.